

KODAK W-OMATIC Identification Camera, Models 2, 2-L, and 2-L60 and KODAK W-OM-R and W-OM-R L Identification Cameras



HEALTH SCIENCES DIVISION

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
FEDERAL BUREAU OF INVESTIGATION
WASHINGTON, D.C. 20535

PLEASE NOTE

The information contained herein is based on the experience and knowledge relating to the subject matter gained by Eastman Kodak Company prior to publication.

No patent license is granted by this information.

Eastman Kodak Company reserves the right to change this information without notice, and makes no warranty, express or implied, with respect to this information. Kodak shall not be liable for any loss or damage, including consequential or special damages, resulting from the use of this information, even if loss or damage is caused by Kodak's negligence or other fault.

CAUTION



This equipment includes parts and assemblies sensitive to damage from electrostatic discharge. Use caution to prevent damage during all service procedures.

Table of Contents

Description	Page
Operator Orientation	3
Product Description	3
Environmental Requirements	3
Cassettes	3
Power Requirements	3
Normal Operation	5
Applying Power to the Camera	5
Setting the Clock	6
Adjusting Lamp Intensity	7
Recording a Patient's Data.....	8
Making an Exposure.....	9
Preventive Maintenance	10
Lamp Replacement and Adjustment	10
Cleaning the Cover Glass	11
Battery Replacement	11
Troubleshooting Procedures	12
New Equipment Warranty	14
Warranty Repair Coverage.....	14
How to Obtain Service.....	14
Limitations	14
Publication Change Table	15

Operator Orientation

Product Description

The *Kodak X-Omatic* IDENTIFICATION CAMERA, Models 2, 2-L, and 2-L60 (hereafter referred to as the ID CAMERA), record patient identification data onto x-ray film in lighttight *Kodak X-Omatic* CASSETTES C-1 or *Kodaflex* CASSETTES.

The *Kodak Min-R* and *Min-R L* IDENTIFICATION CAMERAS record patient identification data of up to 5 lines onto x-ray film in lighttight *Kodak Min-R 2* CASSETTES.

The cameras provide:

- Excellent image quality with a high-quality lens
- Operation in **normal** room illumination or in a darkroom
- The exact time and date of the exposure recorded on the film

Environmental Requirements

The ID CAMERA will operate in the ambient room conditions normally encountered in an x-ray department:

- 15 - 30°C (59 - 86°F)
- 18 - 76% Relative Humidity

Cassettes

The ID CAMERA will function with the following CASSETTES:

- All sizes of *Kodak X-Omatic* CASSETTES C-1 in Models 2, 2-L, and 2-L60
- *Kodaflex* CASSETTES in Models 2, 2-L, and 2-L60
- *Kodak Min-R 2* CASSETTES in the *Min-R* and *Min-R L* Cameras

Power Requirements

For the Model 2 Camera and the *Min-R* Camera:

- The Model 2 and *Min-R* ID CAMERAS must have a 120 V AC, 60 Hz, $\pm 10\%$ power source.
- If the power source is **not** within this range, an external TRANSFORMER must be installed. (Contact Kodak Service.)

For the Model 2-L Camera and the *Min-R* L Camera:

- The Model 2-L and *Min-R* L ID CAMERAS will operate on a 240 V AC, 50 Hz, $\pm 10\%$ power source.
- If the power source is not 240 V AC, 50 Hz, you can still use the ID CAMERA; however, the connections to the TRANSFORMER inside the ID CAMERA must be changed by Kodak Service.

For the Model 2-L60 Camera:

- The Model 2-L60 ID CAMERA will operate on a 220 V AC, 60 Hz, $\pm 10\%$ power source.
- If the power source is not 220 V AC, 60 Hz, you can still use the ID CAMERA; however, the connections to the TRANSFORMER inside the ID CAMERA must be changed by Kodak Service.

IMPORTANT

- Small variations in the voltage can cause variations in the density of the film.
- If your ID CAMERA is installed in an area where voltage fluctuations are occurring, it may be necessary to have a voltage regulator installed to ensure a constant AC voltage to the camera.
- Use a reliable earth ground.

Identification Camera - Main Power Specifications

Camera	Frequency (Hz)	Current (Amps)	Voltage (V AC $\pm 10\%$)
Model 2	60	2.5	120
Model 2-L	50	2.5	120
		1.6	200
		1.6	220
		1.6	240
Model 2-L60	60	2.5	120
		1.6	200
		1.6	220
		1.6	240
<i>Min-R</i>	60	2.5	120
<i>Min-R</i> L	50	2.5	120
		1.6	200
		1.6	220
		1.6	240

Normal Operation

Applying Power to the Camera

NOTE

Do the following steps **before** you record identification data on x-rays of patients.

- [1] Open the COVER on the top of the ID CAMERA.
- [2] Connect the main power to the CAMERA.

NOTE

The PILOT LIGHT on the Model 2-L and 2-L60 CAMERAS and the *Min-R* L CAMERA will illuminate whenever the camera is connected to a power source.

- [3] Move the LAMP SWITCH to "TEST".
- [4] If the LAMP illuminates, move the LAMP SWITCH to "NORMAL".

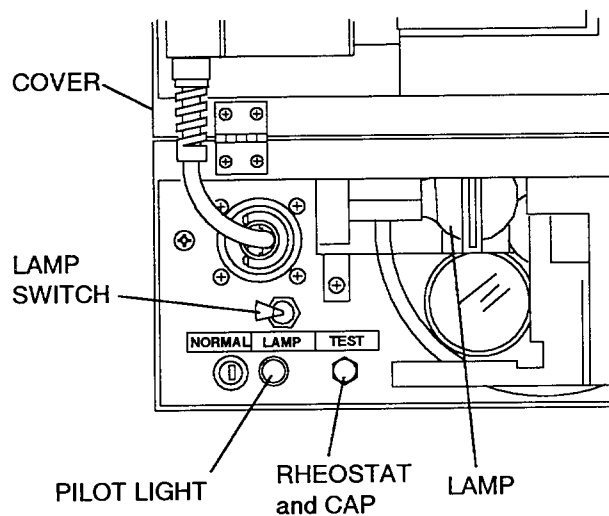


Figure 1 Lamp and Test Switch

NOTE

If the LAMP does not illuminate, refer to the "Lamp Replacement and Adjustment" procedure in the "Preventive Maintenance" section of this manual on page 10.

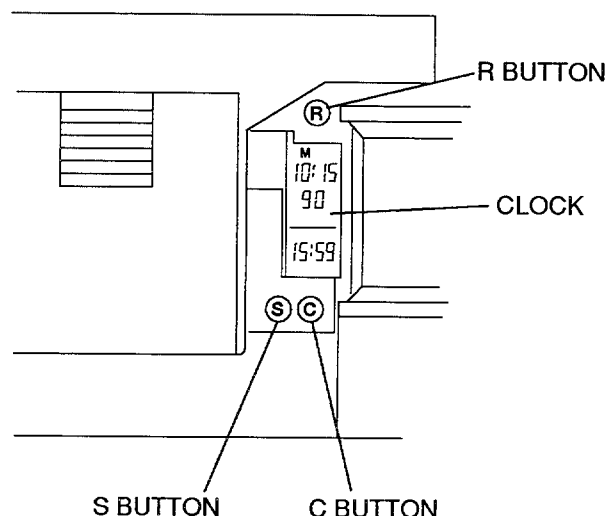
Setting the Clock

- [1] Open the COVER
- [2] Check that the CLOCK is set correctly.
- [3] If necessary, change the time and date:
 - (a) Press the S BUTTON to select the field you want to set:
 - Day
 - Month
 - Year
 - Hour
 - Minute
 - Month Location

NOTE

The selected field will flash ON and OFF.

- (b) Continue to press the S BUTTON until the field that you want to change starts to flash.
- (c) Press the C BUTTON to change the value of the selected field.
- (d) Continue to press the C BUTTON until the CLOCK displays the number you want in that field.



P087_0026ACA
P087_0026AC

Figure 2 Clock Settings

IMPORTANT

- If you wait longer than 5 seconds between pressing the S BUTTON and the C BUTTON, you will have to press the S BUTTON again.
- The CLOCK can display the date in 2 formats: month/day/year or day/month/year. The **month location** field sets the format. The CLOCK will display an “M” above the month.
- When you select the month location field and then press the C BUTTON, you reverse the month and day. The “M” will move with the month to the new position.
- The CLOCK will allow you to set non-valid dates while you are setting the fields; however, in 5 seconds, it will reset to the first day of the month. For example, if you set the day to “30” or “31” and the month to February, in 5 seconds the CLOCK will change the date to “01:02”, or to “02:01” if the month location is first.
- When you install a new BATTERY or if the CLOCK malfunctions, press the R BUTTON. All the numbers will blink 5 times. The CLOCK will then display the default date and time. Do Step 3 above to set the correct time and date.

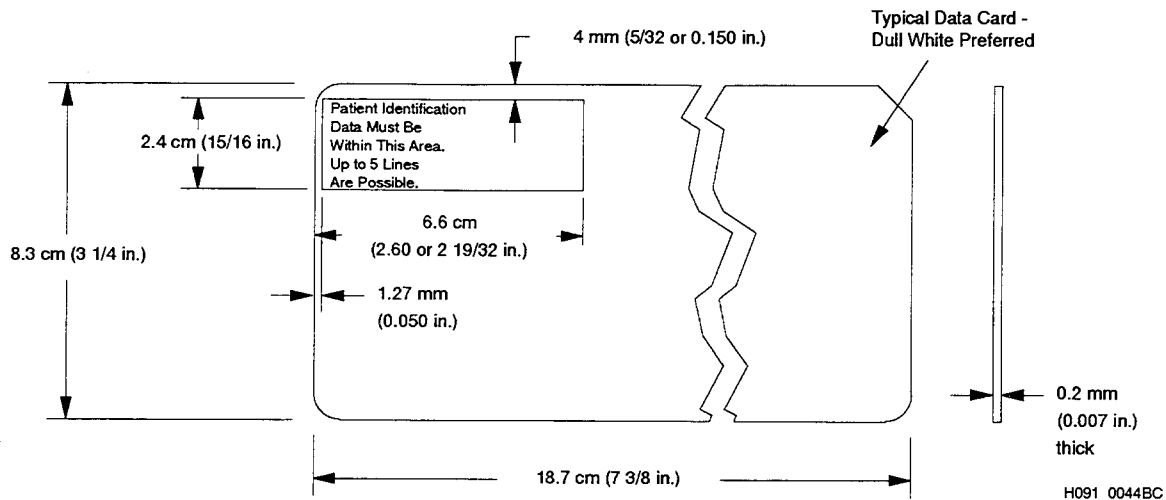


Figure 5 Patient's Identification Card for *Min-R* and *Min-R L* ID Cameras

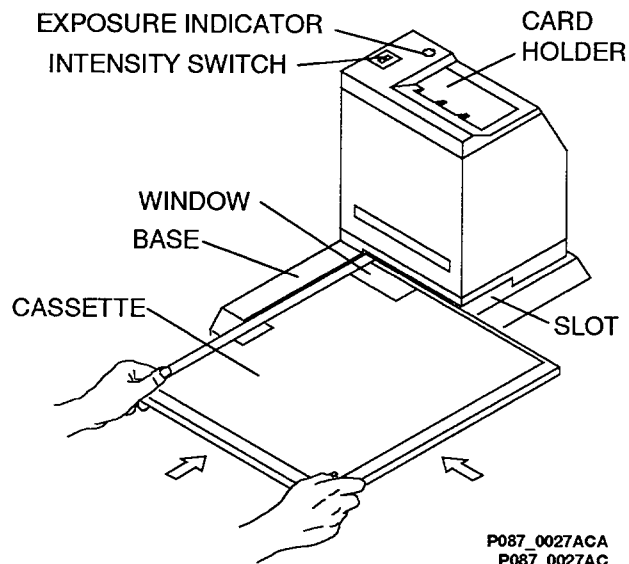
Making an Exposure

- [1] Invert the IDENTIFICATION CARD and insert it under the CARD HOLDER. The data should now be under the bottom left corner of the CARD HOLDER.
- [2] Place a CASSETTE loaded with exposed film on the BASE with the WINDOW in the top left corner.
- [3] Keep the left side of the CASSETTE flush with the thick section of the BASE.

NOTE

Do not move the CASSETTE during the exposure.

- [4] Insert the CASSETTE fully into the SLOT above the BASE.



IMPORTANT

The entire exposure cycle will take approximately 1 second. When you insert a CASSETTE correctly into the SLOT above the BASE, the CAMERA will automatically:

- Actuate a mechanical ARM to open a WINDOW in the CASSETTE and actuate the SHUTTER.
- Illuminate a LAMP to record the identification data, time, and date on the film. (You will see the LAMP illuminate in the EXPOSURE INDICATOR.)
- Close the WINDOW in the CASSETTE.

- [5] Remove the CASSETTE from the CAMERA.
- [6] Process the film according to the manufacturer's specifications.

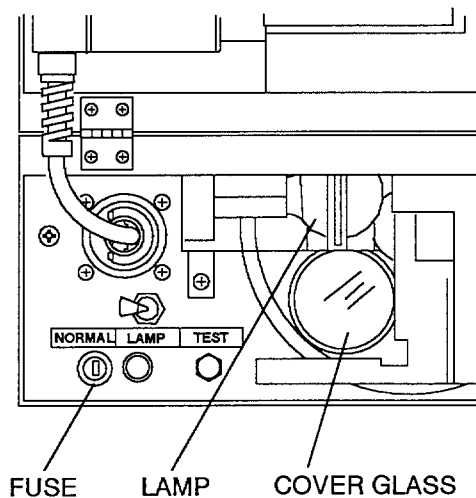
Preventive Maintenance

Lamp Replacement and Adjustment

IMPORTANT

Be sure to disconnect the CAMERA from the main power before you change the LAMP.

- [1] Disconnect the main power.
- [2] Open the COVER.
- [3] Remove the existing LAMP.
- [4] Install a new LAMP. Use Kodak Part No. 521417.

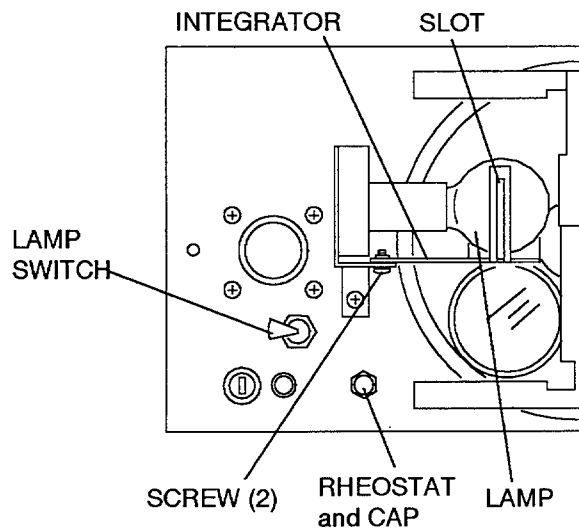


P087_0025ACB
P087_0025AC

- [5] Connect the main power to the CAMERA.
- [6] Set the LAMP SWITCH to "TEST".
- [7] Loosen the 2 SCREWS on the INTEGRATOR.
- [8] Adjust the INTEGRATOR until the SLOT is centered over the brightest part of the LAMP to obtain a uniform density across the exposure.

CAUTION

Check that the INTEGRATOR is not touching the LAMP.



P087_0051ACA
P087_0051AC

- [9] Tighten the 2 SCREWS.
- [10] Set the LAMP SWITCH to "NORMAL".
- [11] Close the COVER.
- [12] Make a test exposure and process the film.

NOTE

If the density is not uniform, repeat Steps 6 - 12 until the density is uniform.

Adjusting Lamp Intensity

NOTE

- The intensity, or brightness of the LAMP is factory-set to produce the correct density on most x-ray films.
- Before you record the patient's identification data on the x-ray film, make a test exposure.
- If it becomes necessary to make an adjustment, follow the procedure below.

- [1] Load a sheet of x-ray film into a CASSETTE in a darkroom.
- [2] Insert an IDENTIFICATION CARD with patient data under the CARD HOLDER.
- [3] Place the CASSETTE on the BASE with the WINDOW of the CASSETTE in the upper left corner.

IMPORTANT

- The left side of the CASSETTE must be flush with the thick section of the BASE.
- Do not move the CASSETTE during the exposure. The EXPOSURE INDICATOR will illuminate during the exposure.

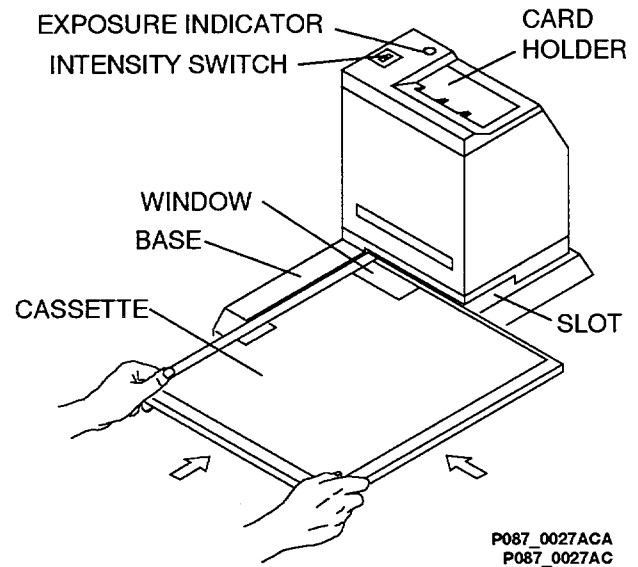


Figure 3 Inserting a Cassette

- [4] Fully insert the CASSETTE into the SLOT above the BASE. The ID CAMERA will automatically expose the film.
- [5] Remove the CASSETTE and process the film in a darkroom.
- [6] Check the density of the film in the exposed area.
- [7] If the density is too dark or too light, change the position of the INTENSITY SWITCH between "LO", "MED", or "HI" ("low", "medium", or "high").
- [8] If a density problem on the film continues, repeat Steps 1 - 7 until the problem is resolved.

Recording a Patient's Data

- [1] Prepare a patient's IDENTIFICATION CARD for a CASSETTE that has exposed but unprocessed x-ray film.
- The WINDOW in **Model 2, 2-L, and 2-L60 Cameras** will accommodate 3 lines of patient data.
 - The WINDOW in **Min-R** and **Min-R L Cameras** will accommodate 5 lines of patient data.
- [2] Refer to the following list for the specifications of the IDENTIFICATION CARD and to the illustration below and on the next page.
- Minimum size: 7.5 x 7.5 cm (3 x 3 in.)
 - Maximum size: 12.5 x 20.5 cm (5 x 8 in.)
 - Maximum thickness: 0.3 mm (0.012 in.)
 - Card Color: Dull white with **black** ink

NOTE

- Standard white tab or data cards with rounded corners are ideal.
- The dimensions of these cards are 8.3 X 18.7 cm (3¼ x 7⅝ in.).
- If the ink is not *black*, the density of the patient data on the film may not be correct.

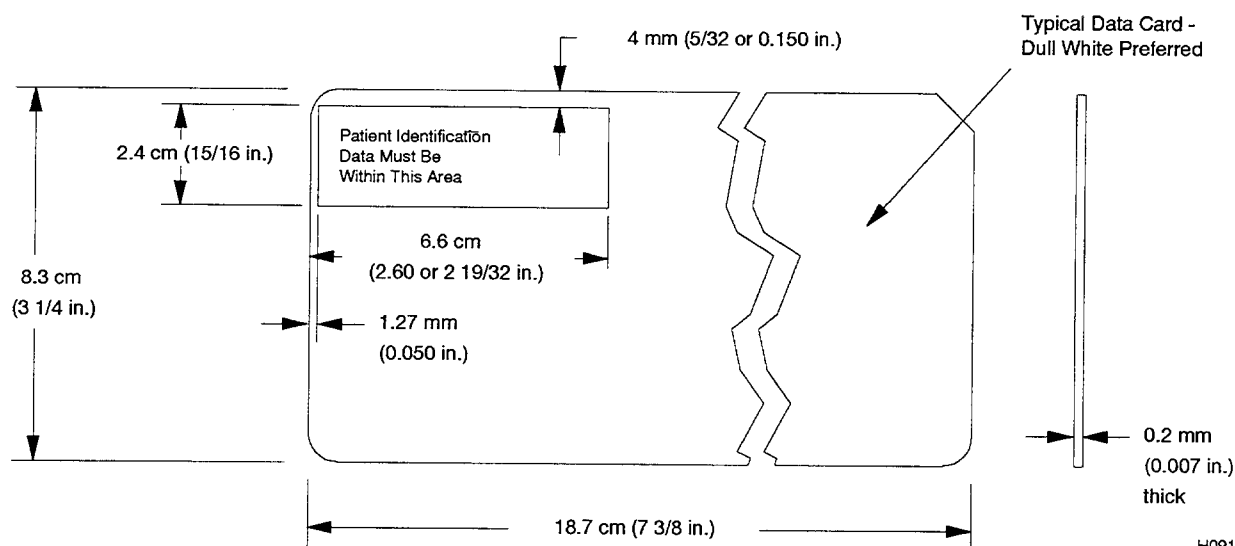


Figure 4 Patient's Identification Card for Model 2, 2-L, and 2-L60 Cameras

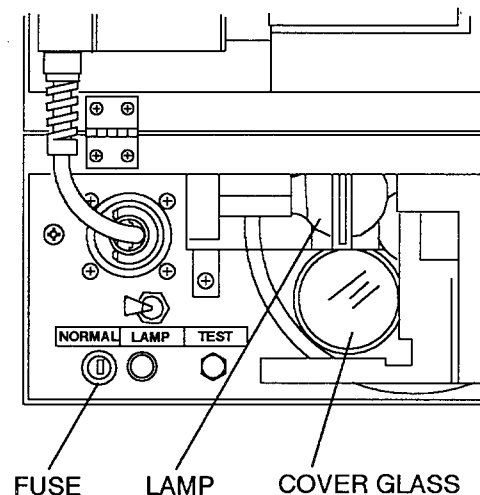
Cleaning the Cover Glass

- [1] Disconnect the main power to the CAMERA.
- [2] Clean the top surface of the COVER GLASS at least once each week.

NOTE

Use *Kodak* LENS CLEANING PAPER or a soft, lint-free cloth.

- [3] Connect the main power to the CAMERA.



P087_0025ACB
P087_0025AC

Figure 6 Cover Glass

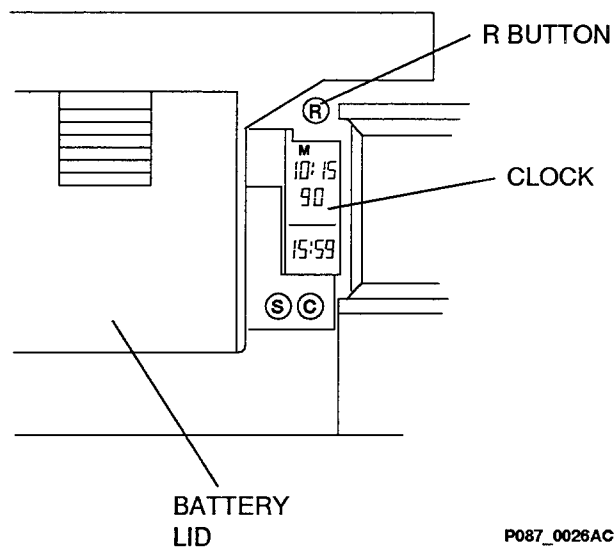
Battery Replacement

When "LOBAT" appears in the identification area on the x-ray film, you must install a new BATTERY within 5 days. "LOBAT" will also be visible at the bottom of the CLOCK.

- [1] Remove the BATTERY LID.
- [2] Remove the existing BATTERY and dispose of properly.
- [3] Install a new 9-volt **alkaline** BATTERY.
- [4] Close the BATTERY LID.
- [5] Press the R BUTTON and reset the CLOCK.

NOTE

Refer to the "Setting the Clock" procedure on page 6 of this manual.



P087_0026ACB
P087_0026AC

Figure 7 Clock Battery

Troubleshooting Procedures

WARNING

Dangerous voltage. Disconnect the ID CAMERA from the main power before you do these procedures.

MALFUNCTION	POSSIBLE PROBLEM	ACTION
Camera does not operate with a cassette inserted	Camera has no power: • Power cord is damaged • Voltage output at the power source is incorrect for your model of camera. • The fuse is blown	Order a new power cord. See page 3. Replace the FUSE. See the illustration on page 10. If the CAMERA still has no power, contact Kodak Service. CAUTION For protection against the risk of fire, replace the FUSE. Refer to the "Power Requirements" on pages 3 and 4. The replacement FUSE must be: • the same physical size • the same type (for example, <i>Slo-Blo</i> Fuse, fast-blo, or medium-blo) • of the same ampere rating
	Cassette is not inserted correctly	(1) Insert the CASSETTE <i>fully</i> to the back of the CAMERA. (2) Check that the: • Window is facing <i>up</i>. • Left side of the CASSETTE is flush with the thick section on the left side of the BASE.
	Cassette is damaged	Load the film into a new CASSETTE.
	Lamp switch S4 is set to "TEST"	Set the SWITCH to "NORMAL".
Cassette window does not open correctly		Contact Kodak Service.

MALFUNCTION	POSSIBLE PROBLEM	ACTION
No date or time appears with the patient data	Dead battery	Install a new battery. See page 11. If the problem continues, contact Kodak Service.
Time is incorrect	The clock is incorrectly set	Set the CLOCK to the correct time. See the "Setting the Clock" procedure on page 6 in this manual.
Patient data is too dark or too light	The intensity switch is not set correctly	(1) Move the INTENSITY SWITCH to the next higher or lower position: • LO • MED • HI (2) Make another exposure and repeat Step 1. (3) If you are unable to correct the problem, contact Kodak Service.
	The lens or cover glass is dirty	Clean the LENS or the COVER GLASS with <i>Kodak</i> LENS CLEANER and <i>Kodak</i> LENS CLEANING PAPER.
Patient data is out of focus	The cassette moved during the exposure, or the lens or cover glass is dirty	• Repeat the exposure and be sure that the CASSETTE does not move during the exposure. • If the problem continues, contact Kodak Service.
Patient data is not uniform or is missing	The hinges on the cover are loose	(1) Tighten the HINGES. (2) Make a test exposure. (3) If necessary, repeat Steps 1 and 2 until the HINGES are correctly aligned.
	Lamp is discolored or has malfunctioned	Install a new LAMP. See the "Lamp Replacement and Adjustment" procedure on page 10 in this manual.
	Exposure path is blocked by the cable	(1) Move the CABLE from the exposure path. (2) Make a test exposure. (3) If necessary, repeat Steps 1 and 2.
	Identification card is inserted incorrectly	Insert the identification card with the printed data inverted in the bottom left corner.

New Equipment Warranty

Kodak warrants the *Kodak X-Omatic* and *Min-R* IDENTIFICATION CAMERAS to function properly for one year from date of initial installation, when installed within one year from the date of shipment.

Warranty Repair Coverage

If this equipment does not function properly during the warranty period, the dealer for *Kodak X-Omat* PROCESSORS who sold the equipment will provide or arrange for repair of the equipment during the dealer's normal working hours. Such repair service will include any necessary adjustments and/or replacement of parts necessary to maintain your equipment in good working order.

How to Obtain Service

Should equipment require service, refer to the sales contract for details on whom to call for service, or contact the dealer for *Kodak X-Omat* PROCESSORS who sold the equipment.

Limitations

Warranty service is limited to the contiguous United States, the island of Oahu in Hawaii, and certain areas of Alaska.

This warranty does not cover: circumstances beyond Kodak's control; misuse; abuse; any attachments, accessories, or alterations not marketed by Kodak (including service or parts to correct problems resulting from the use of such attachments, accessories or alterations); failure to follow Kodak's operating instructions; or supply items.

Kodak makes no other warranties, express, implied, or of merchantability for this equipment.

Repair without charge is Kodak's and the dealer's only obligation under this warranty.

- ***Kodak will not be responsible for any consequential or incidental damages resulting from the sale, use, or improper functioning of this equipment even if loss or damage is caused by the negligence or other fault of Kodak.***
- Such damages for which Kodak will not be responsible, include, but are not limited to, loss of revenue or profit, downtime costs, loss of use of the equipment, cost of any substitute equipment, facilities or services or claims of your customers for such damages.

This limitation of liability will not apply to claims for injury to persons or damage to property caused by the sole negligence or fault of Kodak or by persons under its direction or control.

Publication Change Table

Revision Date	Pub. No.	Affected Pages	Filename	Description
10/91	240996	all	3202om_a.txt	First printing for Models 2 and 2-L.
1/92	968361	all	3202om_a.txt	Revision to add the <i>Min-R</i> Camera.
28JUL1994	1C7072	all	3202cm_a.txt	Revision to add Model 2-L60 and <i>Min-R</i> L Cameras. ECO No. 2537-128.

Health Sciences Division
EASTMAN KODAK COMPANY
Rochester, NY 14650

Printed on recycled paper containing 10%
post-consumer waste fiber, using soybean-
based inks. The post-consumer fiber is made
up of Eastman Kodak Company office paper
waste.

KODAK, KODAFLEX, MIN-R, X-OMAT,
and X-OMATIC are trademarks.

The new vision of Kodak

